Appendix A - Amended claim with markup to show the actual changes.

WHAT IS CLAIMED IS:

1. (Currently Amended) An optical transceiver, comprising:

a transmitter comprising a laser diode and a laser driver providing a drive signal to the laser diode and capable to transmit high speed data;

a receiver comprising a photodiode and signal recovery circuitry and capable to receive high speed data; and

a microcontroller coupled to the said transmitter and receiver and providing a modulated power control current to the laser during an impulse test mode to transmit high optical power signal and monitoring received signals to detect reflections.

2. (Original) An optical transceiver as set out in claim 1, wherein said transmitter and receiver are coupled to same fiber.

3. (Original) An optical transceiver as set out in claim 1, wherein said modulated power control is controlling a laser driver that has modulation and bias power control inputs and wherein said microcontroller modulates said bias control input during said test mode.

4. (Currently Amended) An optical transceiver as set out in claim 1, wherein said microcontroller modulates said power control signal employing, in addition to the laser driver used for the data link, a dedicated transistor for direct high current impulse drive of the laser.

5. (Original) An optical transceiver as set out in claim 1, wherein said receiver further comprises a transimpedance amplifier coupled to the photodiode and wherein said microcontroller monitors the output of said transimpedance amplifier during said impulse test mode.

6. (Original) An optical transceiver as set out in claim 5, further comprising a comparator coupled between the output of said transimpedance amplifier and said microcontroller, for detecting signals at the output of the transimpedance amplifier.

7. (Original) An optical transceiver as set out in claim 6, wherein said comparator detection level is controlled during the impulse test mode to be more sensitive than during data transport mode.

8. (Original) An optical transceiver as set out in claim 1, wherein the impulse test signal comprise a code sequence.

9. (Original) An optical transceiver as set out in claim 1, wherein said microcontroller is capable to detect the code sequence at the output of the comparator.

10. (Currently Amended) A method for detection of high optical reflection in a fiber optic network, comprising:

a single fiber link whereby data transport in both direction is conducted through the same fiber at the same wavelength; and

transmitting an impulse test signal by modulating a laser transmitter using an impulse test transmission mode which is different than a data transmission mode during normal operating conditions; and

detecting any received signals modulated using said test transmission mode within a predetermined time period after said transmitting.

11. (Currently Amended) A method for fault detection in a fiber optic network as set out in claim 10, wherein said test transmission mode comprises modulating the same laser at a power level above the minimum threshold for normal data transmission.

12. (Currently Amended) A method for fault detection in a fiber optic network as set out in claim 10, wherein said test transmission mode comprises modulating the same laser at a frequency substantially lower than during normal data transmission.

13. (Original) A method for high reflection detection in a fiber optic network as set out in claim 10, further comprising detecting and measuring the time delay for receiving the reflected test pulse and determining the location of the reflection.

14. (Original) A method for fault detection in a fiber optic network as set out in claim 13, further comprising increasing the laser transmitter power during transmission of said short duration test pulse.

15. (Original) A method for fault detection in a fiber optic network as set out in claim 10, further comprising increasing the detection sensitivity after the transmission of the said short duration test pulse.